



LARKINSBURG
POTENTIAL WETLAND COMPENSATION SITE
FAP 328
Clay County, near Edgewood, Illinois
Primary Project Manager: Gregory A. Shofner
Secondary Project Manager: Keith W. Carr

ISGS #69B

SITE HISTORY

- August 2002: ISGS submitted an Initial Site Evaluation Report to IDOT.
- September 2002: IDOT issued a task order for a Level II hydrogeologic characterization of the site.
- March–April 2003: ISGS data collection was initiated with the installation of monitoring wells, stage gauges, and data loggers.
- December 2003: Monitoring well array was expanded with the installation of additional shallow monitoring wells 12S, 13S, 14S, 15S, and 16S.
- March 2004: A topographic survey of the site was performed, along with determination of well and instrument locations using the GPS.

WETLAND HYDROLOGY CALCULATION FOR 2004

We estimate that 0.33 acres (0.13 ha) of the total site area of 45.3 acres (18.4 ha) satisfied wetland hydrology criteria for greater than 5% of the growing season in 2004. The same area of 0.33 acres also satisfied wetland hydrology criteria for greater than 12.5% of the growing season. These estimates are based on the following factors.

- According to the Midwestern Climate Center, the median date that the growing season begins in nearby Vandalia, Illinois is April 4 and the season lasts 211 days; 12.5% of the growing season is 26 days.
- At the Vandalia weather station, total precipitation from September 2003 through August 2004 was 127% of normal. Although total precipitation exceeded normal for the year, the early growing season was drier than last year. This was primarily due to dry conditions in February, April, and June.
- Wells 2S, 4S, and 4VS satisfied wetland hydrology criteria of the 1987 U.S. Army Corps of Engineers Wetland Delineation Manual for greater than 5% of the growing season. Wells 2S, 4S, and 4VS also satisfied wetland hydrology criteria for greater than 12.5% of the growing season. All wells that satisfied wetland hydrology criteria are located at elevations of 1.6 to 1.7 m (5.2 to 5.6 ft) below the average site elevation. In addition, well 2S is located outside of the site boundary.
- Crest-gauge data (CG 1) show that the unnamed tributary of Dismal Creek attained a maximum stage of 139.06 m (456.23 ft), which was insufficient to provide water to a majority of the site in 2004.

- Wetland hydrology acreage was calculated based on an ISGS topographic survey that was rectified both to GPS data, and to point locations visible on a digital orthophotograph.

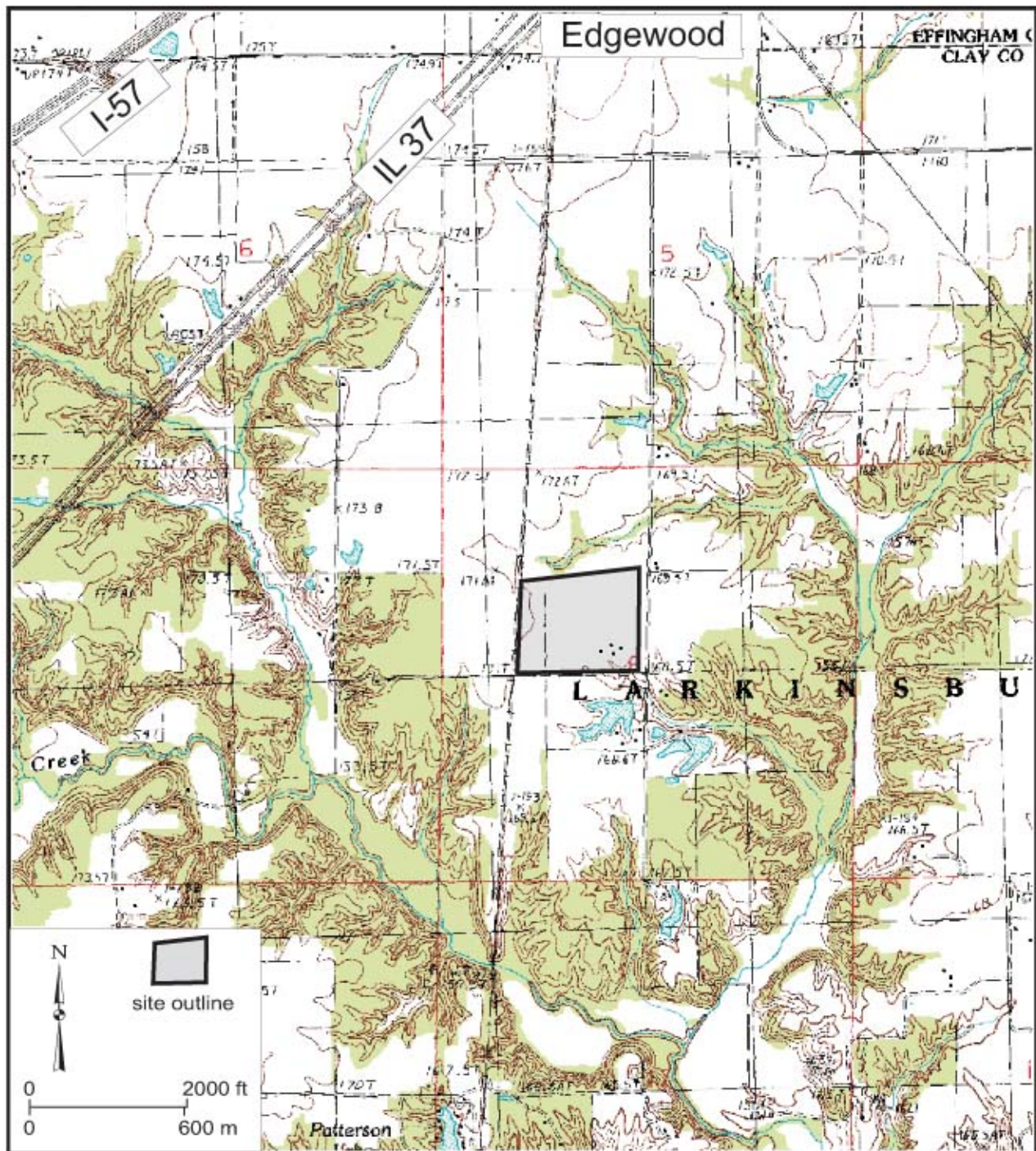
PLANNED FUTURE ACTIVITIES

- A Level II hydrogeological characterization report is in preparation.
- Monitoring will continue until no longer required by IDOT.

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General Study Area and Vicinity

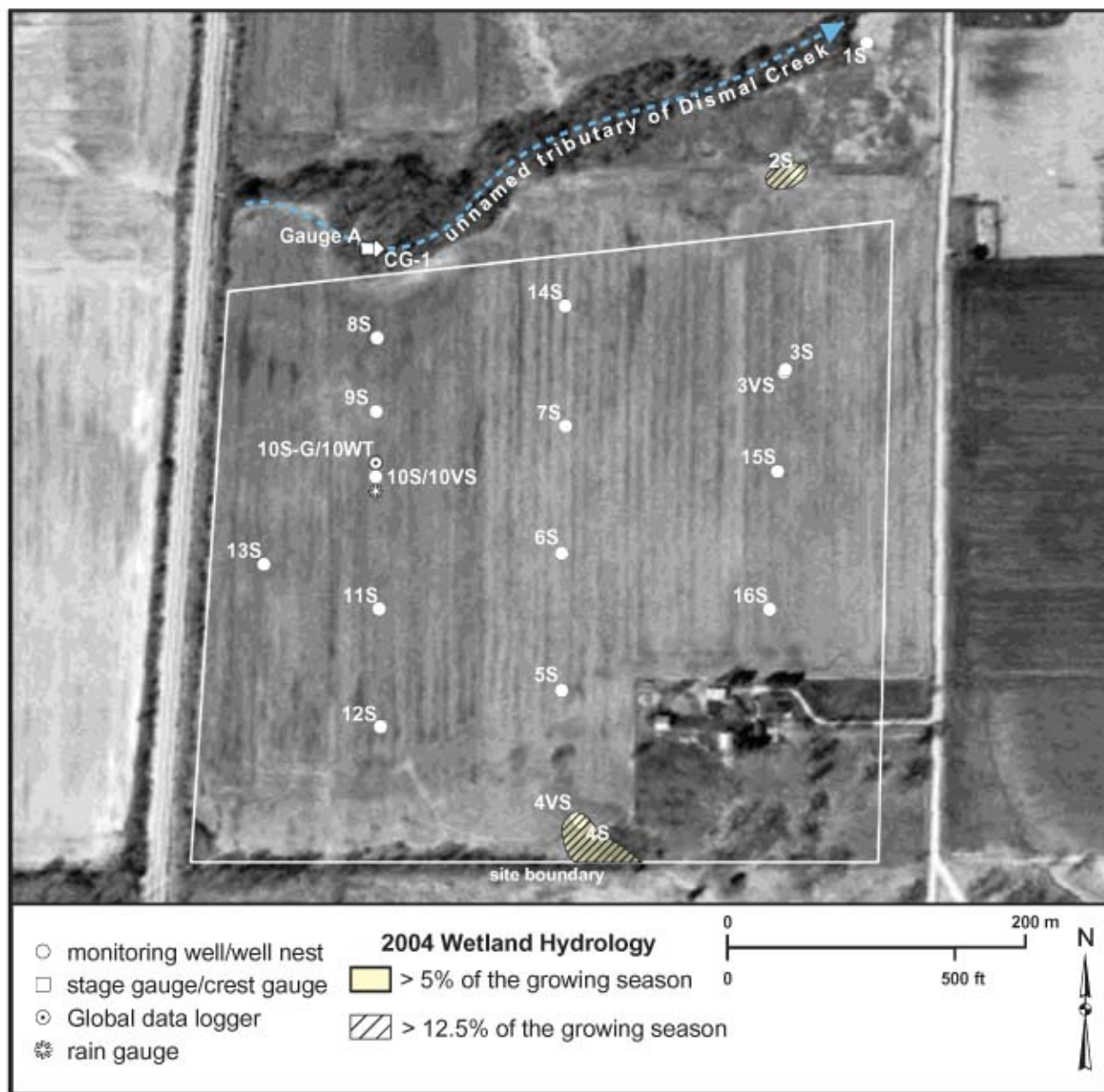
from the USGS Topographic Series, Edgewood, IL 7.5-minute Quadrangle (USGS 1985-provisional)
contour interval is 10 feet



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Estimated Areal Extent of 2004 Wetland Hydrology

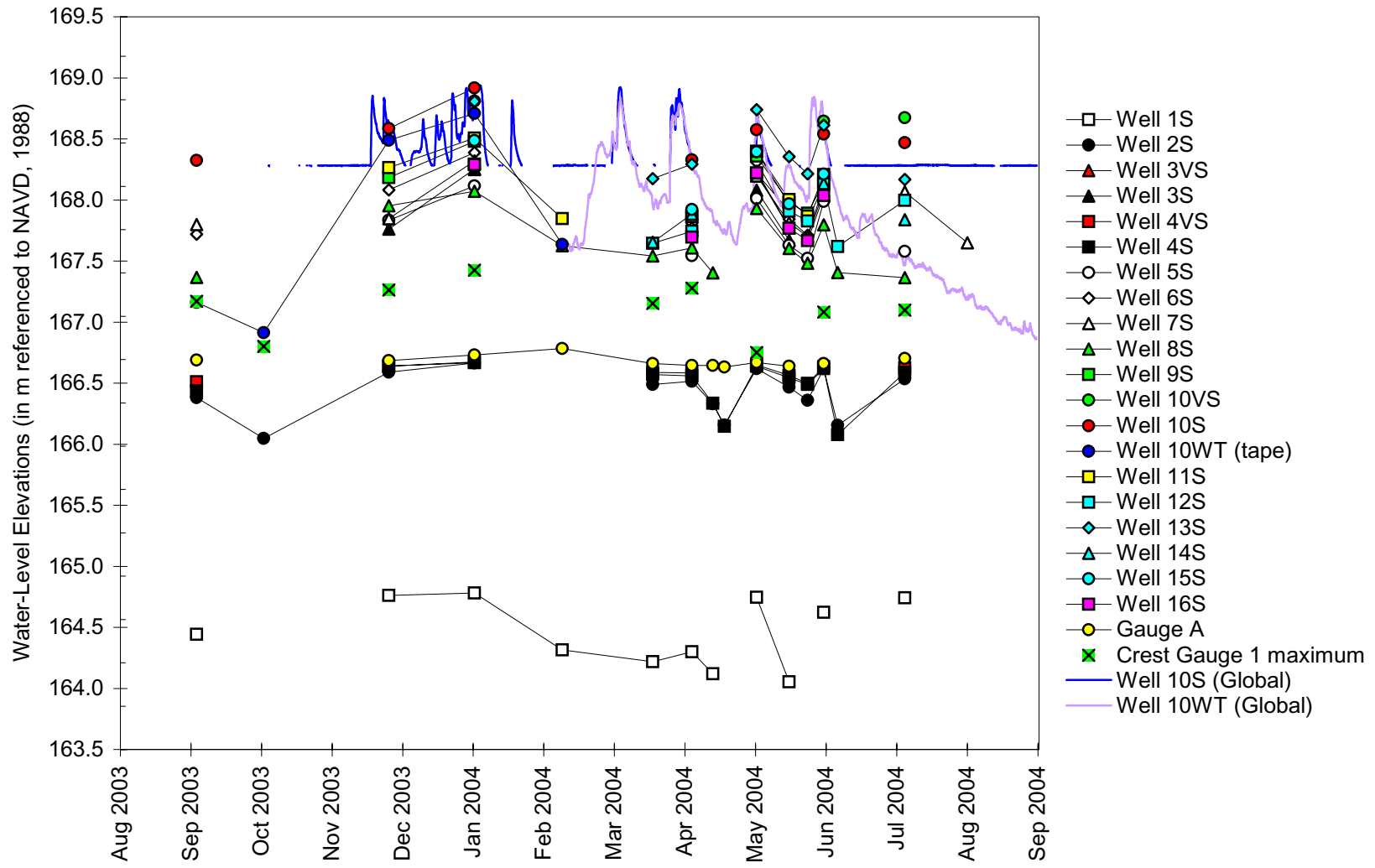
map based on USGS digital orthophotograph, Edgewood SE quarter quadrangle
from April 1998 aerial photography (ISGS 2003)



Larkinsburg Potential Wetland Compensation Site

September 1, 2003 to September 1, 2004

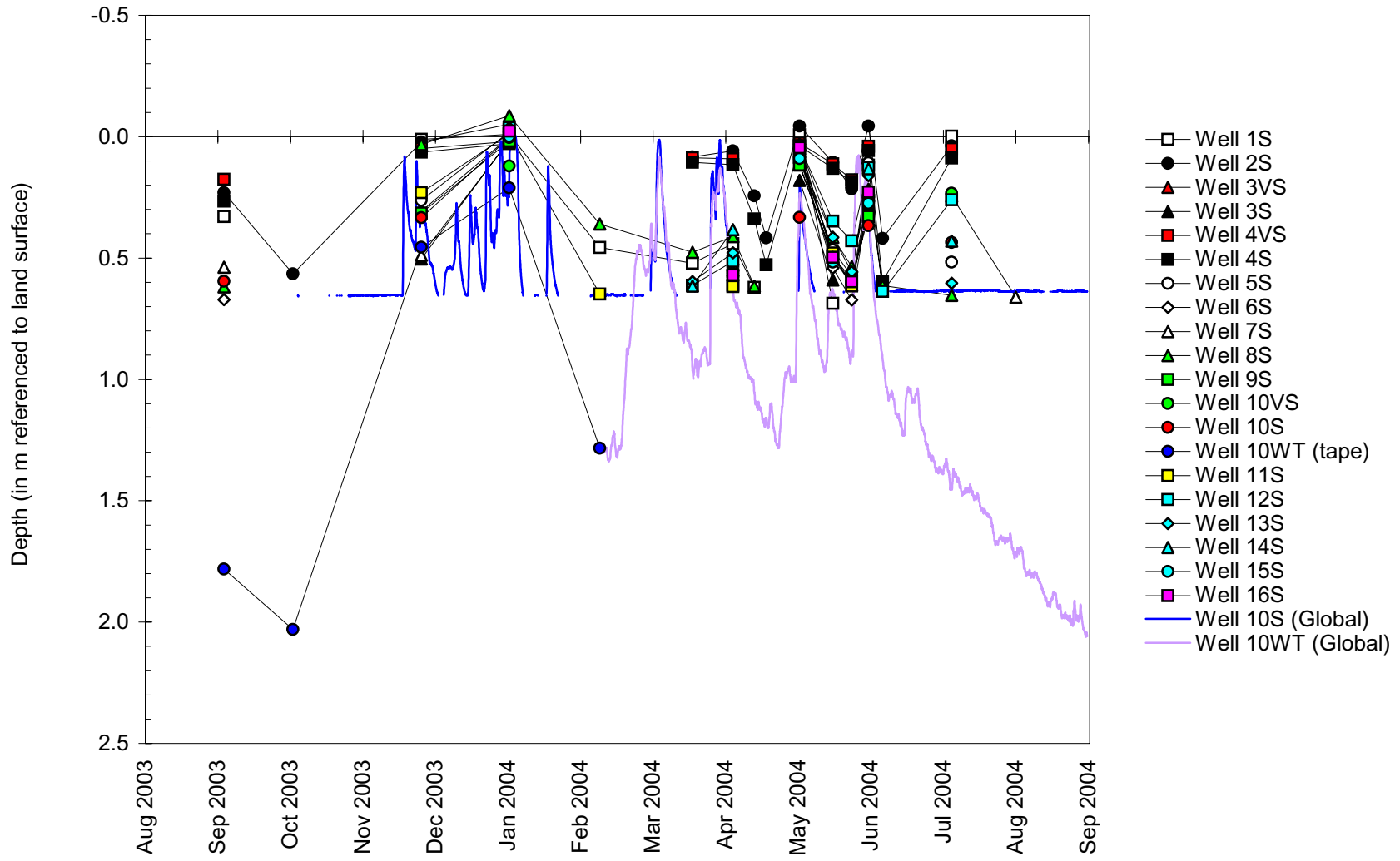
Water-Level Elevations in Monitoring Wells, on the Stage Gauge, and at the Global Data Logger



Larkinsburg Potential Wetland Compensation Site

September 1, 2003 to September 1, 2004

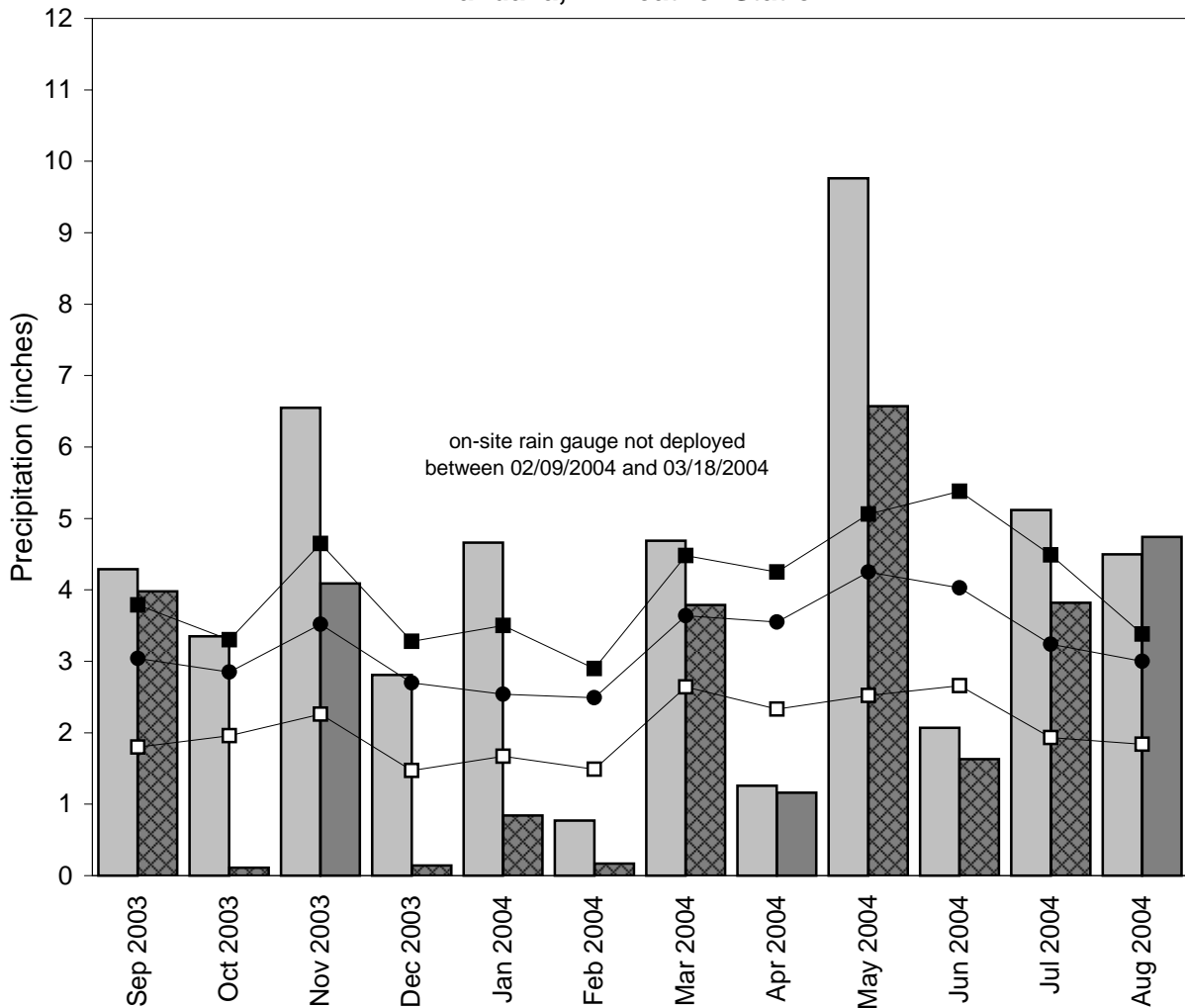
Depth to Water in Monitoring Wells



Larkinsburg Potential Wetland Compensation Site

September 2003 through August 2004

Total Monthly Precipitation Recorded On Site and at the Vandalia, IL Weather Station



- monthly precipitation recorded at weather station (Midwestern Regional Climate Center)
- monthly precipitation recorded on site by ISGS
- 1971-2000 monthly average precipitation (National Water and Climate Center)
- 1971-2000 monthly 30% above average threshold (National Water and Climate Center)
- 1971-2000 monthly 30% below average threshold (National Water and Climate Center)
- ▤ data incomplete